CONGRESS OF THE UNITED STATES
Washington, D.C. 20515

Congressman Tom Latham, Iowa - 04
Fiscal Year 2010 Defense Appropriations Member Project Requests

In accordance with the policies put forth by the House Appropriations Committee, I would like to share with you some information regarding the projects that I have submitted for consideration in the FY2010 Department of Defense Appropriations Bill.

Project Name: Advanced Live, Virtual, and Constructive (LVC) Training Systems
Amount Requested: $7,000,000
Account: Research, Development, Test and Evaluation - Army
Recipient: Iowa State University
Recipient's Street Address: 1750 Beardshear Hall, Ames, IA 50011-2035
Description: The Virtual Reality Applications Center (VRAC) located at Iowa State University has a scientific team leading research in the development of advanced software prototypes that utilize immersive virtual warfighting environments, in collaboration with the U.S. Army. Keeping up with the unique demands of urban combat and ever-changing environments in counterinsurgency warfare requires flexible and adaptive training systems that can be modified rapidly and deployed effectively in the field. This project is intended to help the Department of Defense meet its training objective to ensure soldiers can improvise and adapt to emerging challenges.

Project Name: Aircraft Evaluation Readiness Initiative (AERI)
Requested: $3,000,000
Account: Research, Development, Test and Evaluation – Air Force
Recipient: Iowa State University
Recipient's Street Address: 1750 Beardshear Hall, Ames, IA 50011-2035
Description: This project would continue a program to address a range of aircraft inspection needs to help extend the life of the aging Air Force fleet, as part of a partnership between the Center for Nondestructive Evaluation at Iowa State University and the Air Force Materials Laboratory at Wright Patterson Air Force Base.

Project Name: Galfenol Energy Harvesting
Amount Requested: $3,650,000
Account: Research, Development, Test and Evaluation - Army
Recipient: ETREMA Products, Inc.

Recipient's Street Address: 2500, North Loop Drive, Ames, Iowa 50010
Description: The US Navy has a goal of reducing crew sizes, moving toward all-electric designs and increasing survivability of its vessels. A key strategy is the use of remote sensors to monitor areas and functions of a ship normally covered directly by personnel. The objective of the project is to develop this technology. Magnetostrictive materials like Galfenol offer a unique capability to harvest stray energy from routine ship vibrations and other sources which can power these sensors and the wireless radios used to transmit the data. Remote sensors would communicate information to a central processing station using a wireless network and thereby avoid adding the weight and complexity of additional wiring. An important benefit is the increased survivability of such a vessel in the event of an emergency or attack. By decentralizing command and control functions of a vessel through virtual control centers, damage to any one section of a vessel can be circumvented.

Project Name: GLSC Materiel Information Management Environment
Amount Requested: $4,000,000
Account: Operations and Maintenance, Air Force
Recipient: Kingland Systems
Recipient's Street Address: 1401 6th Ave. South, Clear Lake, IA 50428
Description: This funding will be used to create a single, integrated Material Information Management Environment computer software system for the Air Force's Global Logistics Support Center (GLSC) for use across multiple Air Force communities, including acquisition, maintenance, supply etc. The goal is to improve the Air Force's global supply and logistics chain to increase parts availability by up to 20% and reduce errors in delivering critical parts.

Project Name: HyperAcute Vaccine Development
Amount Requested: $9,000,000
Account: Research, Development, Test and Evaluation - Army
Recipient: BioProtection Systems Corporation
Recipient's Street Address: 2901 S. Loop Drive, Suite 3360, Ames, IA 50010
Description: The project objective is to develop anti-viral vaccines for use against Ebola, Crimean Congo and other biological warfare agents. Although millions of dollars have been spent on Biological Defense over the past several years, only a handful of vaccines/medications have been developed to counter known threats. Unfortunately, most have proven to be weak and impractical to administer because they require multiple doses for protection or treatment. Importantly, these vaccines would not protect against genetically engineered biological weapons, which are relatively easy to produce. The vaccine technology is being developed to 1) enhance current vaccines, making them more effective and practical for use, 2) generate vaccines for known threats where a vaccine does not exist, and 3) develop a vaccine platform that could be adapted for newly developed biological agents. This request covers the third year in a three-year development plan for this vaccine technology, which was selected by the Department of Defense to satisfy existing military requirements, and has received funding through the National Institutes of Health, and the Defense Threat Reduction Agency.

Project Name: The Iowa Biorefinery Pilot for Defense Applications
Amount Requested: $6,000,000
Account: Research, Development, Test and Evaluation, Defense-Wide
Recipients: Frontline BioEnergy LLC, Lynntech Inc.
Recipient's Street Addresses: Frontline BioEnergy LLC, 1421 S. Bell Ave., Ste. 105; Ames, IA 50010. Lynntech Inc., 1313 Research Parkway; College Station, TX 77845
Description: The objective of the project is to develop and test biomass refining technology that can be used to produce power and fuels for defense installations using renewable sources. The funding will be used to construct a refinery pilot-plant capable of processing biomass material to produce and purify hydrogen-rich synthesis gas to provide fuel and power for electro-chemical production of ammonia. The pilot plant will be built at the BECON facility in Nevada, Iowa. The electro-chemical unit will be capable of converting hydrogen for producing power and ammonia. Ammonia is a key material needed for decontamination of spaces exposed to chemical agents. Being able to produce anhydrous ammonia from renewable sources would be extremely beneficial for both the environment and the U.S. economy. Ammonia is currently made from fossil fuels and largely imported into the United States from overseas, shipped at great expense and stored in large and small ammonia terminals across the country.

Project Name: Low Cost GPS Recievers
Amount Requested: $8,000,000
Account: Defense Production Act
Recipient: Rockwell Collins
Recipient's Street Address: 400 Collins Rd., Cedar Rapids, IA, 52498
Description: This initiative is funded under the "Defense Production Act," which ensures that certain products are manufactured in America – for national security reasons. The primary objective of the program is to bring production of the "substrate" used to construct military GPS microchips back to the U.S. from overseas. The funding will also further development of the next generation military GPS receiver, which will be smaller, more accurate, more secure, and cheaper to produce. Cost savings will allow the purchase of a higher number of receivers so that each squad of soldiers could have one. Due to the current shortage of military GPS units, soldiers are purchasing and using commercial handheld devices that are highly vulnerable to electronic interference, jamming, and spoofing. Production of advanced GPS receivers will result in the creation of 120 jobs in the state of Iowa. These will span both professional/engineering and manufacturing disciplines and is likely to generate over $6 million per year in wages and taxes for the local economies.

Project Name: Medium Tractor Crawlers
Amount Requested: $17,500,000
Account: Procurement, Marine Corps
Recipient: John Deere Dubuque Works
Recipient's Street Address: 18600 S John Deere Rd Dubuque, IA 52001
Description: This funding will be used to procure new medium crawler tractors (MCT) in order to eliminate the inventory shortfalls that will occur as a result of having to meet new requirements for combat engineering units deployed to Afghanistan. In September

2007 the Marine Corps awarded a contract to purchase up to 540 new medium crawler tractors (MCT). To date 355 MCTs have been funded; however, a new requirement has arisen for additional tractors to be used as US forces expand their operations in Afghanistan.

Project Name: Multi-Utility Materials for Army Future Combat Systems Amount
Requested: $9,000,000
Account: Research, Development, Test and Evaluation - Army
Recipient: Iowa State University
Recipient's Street Address: 1750 Beardshear Hall, Ames, IA 50011-2035
Description: This initiative is designed to enable Iowa State University, in partnership with Florida A&M University and the South Dakota School of Mines & Technology, to support the U.S. Army in developing and evaluating weapons and protective armor materials, with emphasis on survivability. This includes the development of new materials and nondestructive techniques to assure that the materials have the desired properties to provide the best and most reliable physical protection to the soldier.

Project Name: New Vaccines to Fight Respiratory Infection
Amount Requested: $6,000,000
Account: Research, Development, Test and Evaluation - Army
Recipient: Iowa State University
Recipient's Street Address: 1750 Beardshear Hall, Ames, IA 50011-2035
Description: A team of researchers at Iowa State University and the University of Nebraska Medical Center with expertise in biotechnology, bacterial genetics, immunology and polymer chemistry has been formed to work on this project with the U.S. Army, in order to develop new vaccine delivery technology that can be employed to combat a wide variety of respiratory pathogens threatening our military personnel. The technology can also be effective in combating agro-terrorism by protecting animals from airborne diseases. The project addresses needs identified in the President's Interagency Research and Development priorities related to Homeland Security and National Defense.

Project Name: Pilot Vehicle Interface (PVI) for the Common Avionics Architecture System (CAAS) for the CH-47F Helicopter
Amount Requested: $3,400,000
Account: Aircraft Procurement, Army
Recipient: Rockwell Collins
Recipient's Street Address: 400 Collins Rd., Cedar Rapids, IA, 52498
Description: This funding will be used for the completion of the Pilot Vehicle Interface (PVI) for the Common Avionics Architecture System (CAAS) for CH-47F cockpits. The purpose of these upgrades, which originated with helicopters used by the Special Forces, is to reduce the workload of army aviators by allowing them to spend less time with their head down in the cockpit. For example, this involves changing the system that reports aircraft system failures and maintenance issues, improving the Heads-Up Display (HUD)/image generator for night vision goggles, and converting text displays to symbols, allowing instrument status to be scanned instead of read.

Project Name: Portable Rapid Bacterial Warfare Detection Unit
Amount Requested: $8,400,000
Account: Research, Development, Test and Evaluation, Defense-Wide
Recipient: Advanced Analytical Technologies, Inc.
Recipient's Street Address: 2901 South Loop Drive, Ames, IA 50010
Description: The project objective is to develop portable instrumentation that provides biological warfare identification in drinking water samples in hours or minutes instead of days. This technology provides the rapid response needed to protect our troops from exposure to harmful agents on the battlefield, and could also have homeland security applications. For example, early bird flu virus identification in remote areas could help avert a pandemic flu scenario. This technology would provide for the rapid detection of biological warfare agents both domestically and internationally. This project is expected to create a total of 53 high-paying technical and manufacturing jobs based in central Iowa.

Project Name: Shared Vision
Amount Requested: $4,000,000
Account: Research, Development, Test and Evaluation - Army
Recipient: Mechdyne Corporation.
Recipient's Street Address: 11 East Church Street, Marshalltown IA 50158
Description: The project objective is to develop software and hardware to achieve a capability to provide all levels of military command with access to real-time, visual information about a battle space, for use in mission planning and after action review. The result will be a battlefield-ready Army Battle Command System that integrates information collected using a wide range of methods (reconnaissance imagery, direct surveillance, sensors, etc.) to create virtual representations of a given area, providing an operational picture for all mission phases. The request will provide funding needed to proceed with field-testing and evaluation of the system, the next stage of development with the U.S. Army.

Project Name: Tractor Rubber-Tired Articulated Steering Multi-Purpose (TRAM)
Amount Requested: $20,000,000
Account: Procurement, Marine Corps
Recipient: John Deere Davenport Works
Recipient's Street Address: P. O. Box 4198, Highway 61 & Mount Joy Road
Davenport, IA 52808-4198
Description: This funding would be used by the Marine Corps to procure additional John Deere-manufactured multi-purpose tractors (referred to as TRAMs) which can be configured as either loaders or forklifts, designed for use by combat engineering units operating on rough terrain. Even after having undergone a remanufacture program, the service life of the TRAM fleet has been shortened by the excessive wear and damage resulting from its extended use in the Global War on Terror. As a result, the Marine Corps awarded a contract in November 2006 to begin replacing the current fleet of 644 TRAMs. An additional $20 million in funding will procure 125 new TRAMs.

Project Name: Wireless Medical Monitoring System (WiMed)
Amount Requested: $3,000,000
Account: Research, Development, Test and Evaluation - Army
Recipient: Athena GTX
Recipient's Street Address: 3630 SW 61st Street , Suite 395
Description: The purpose of the project is to greatly improve casualty care in combat situations, where medics are unable to effectively monitor injured soldiers' conditions. Current medical triage monitors and vital signs data tracking tools are complex, heavy, and have numerous wires with bulky connections. Wounded soldiers in Iraq will see care within one hour, and in Afghanistan the time may exceed four hours. There are often extensive delays in air evacuations during fire fights and a definitive lack of medical state monitoring. The Wireless Medical Monitoring System ensures that medical triage can be performed effectively by medics on the battlefield, and that medical information about the casualty is retained to improve treatment following evacuation. The system includes a stick-on sensor that integrates pulse oximetry, blood pressure, temperature, skin humidity, and electrocardiograms into a single unit. Information from these units is broadcast to a single monitoring screen used by the medic, using Wi-Fi technology. The U.S. Army and the National Trauma Institute are currently conducting comprehensive clinical trials across numerous Level 1 Trauma Centers using this system. It is estimated that the requested funding would result in the creation of 16 new jobs in Iowa during Fiscal Year 2010, primarily in engineering.